Remarks

The Examiner's careful and thorough review of the present application is acknowledged and appreciated. In the Office Action mailed September 30, 2002 the Examiner rejected claims 1-21 under 35 U.S.C. § 103(a) as being unpatentable over USPN 5,646,917 to Miyoshi, et al. (hereinafter Miyoshi) in view of USPN 5,589,859 to Schantz (hereinafter Schantz). By this paper, Applicants amend claims 1, 17, and 21. Support for the amendment to the claims can be found in Figures 1 and 3 and in the specification on page 8, line 26 through page 9, line 27. Applicants respectfully request the Examiner to reconsider the claims and withdraw the rejections.

Information Disclosure Statement

The Examiner's attention is directed to the Information Disclosure Statement filed herewith. The untranslated German patent number DE 4236340 to Seelig appears to relate to providing AC power to a linear motor (See, Fig. 9). As such, the Seelig patent does not appear to be relevant to the present application.

Specification

The specification has been amended for consistency.

Rejection of Claims 1-21 Under 35 U.S.C. § 103

Independent claims 1 and 17 have been amended to provide for a robot comprising a drive mechanism configured to move the robot about within the automated library system. Independent claim 10 provides similar recitations. The limitation of a robot comprising a drive mechanism configured to move the robot about within an automated library system is not taught, disclosed or suggested by Miyoshi and Schantz, alone or in combination.

In particular, Miyoshi teaches a horizontal carrier that has a magnet to form a magnetic field passing through a plurality of coils that are sequentially excited to move the carrier in the moving direction. (Miyoshi, Abstract). Schantz teaches a printhead carriage driven by a belt connected to a drive motor. (Schantz, col. 4. ll. 5-8). As such, Schantz fails to cure the deficiencies of Miyoshi. Since the cited references, alone or in combination, fail

to teach, disclose or suggest the claimed invention, the Examiner has failed to make a *prima facie* case of obviousness under 35 U.S.C. § 103(a) and the rejection should be withdrawn.

Summary

Applicants have made a *bona fide* effort to respond to the Examiner's rejections in advancing the prosecution of this case. Applicants believe all formal and substantive requirements for patentability have been met and that this case is in condition for allowance, which action is respectfully requested.

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Respectfully submitted,

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Date: December 6, 2002

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Attachment

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In The Specification

Please replace the Specification paragraphs as shown below.

Please replace the paragraph beginning on page 9, at line 19 with the paragraph shown below:

A secondary coil 224 is wound around the magnetic core 214. The magnetic core 214 inductively couples the secondary coil 224 to the primary coils 122. An alternating current flowing in the primary coils 122 induces an alternating magnetic flux in the magnetic core 214. The alternating magnetic flux flowing through the magnetic core 214 induces a secondary alternating current in the secondary coil 224. The secondary alternating current is routed to the electronics circuit [202] 212 where it is rectified to provide direct current electrical power throughout the robot 200. Referring back to FIG. 1 momentarily, the alternating current flowing in the primary coils 122 is generated by a power supply 124.

Please replace the paragraph beginning on page 14, at line 16 with the paragraph shown below:

Electrically, the second alternating currents induced in both secondary coils 224 and 240 can be added by connecting both secondary coils 224 and 240 together. This configuration, however, requires that all of the alternating currents applied to the primary coils 122 are in phase with each other. If not, the secondary alternating current induced in the secondary coil 224 may add destructively with a second secondary alternating current induced in the second secondary coil 240. In the preferred embodiment, each secondary alternating current is rectified individually before being combined, as shown in FIG. 12. The secondary coil 224 is connected to a first full wave bridge rectifier 242. The second secondary coil 240 is connected to a second full wave bridge rectifier 244. Other types of rectifiers may also be used within the scope of the present invention. The outputs of each full wave bridge rectifier 242 and 244 are connected together and filtered by a capacitor 246 or other type of filter. If a battery 226 is included in the robot 200, it is also connected to the output of the full [eave]

wave bridge rectifiers 242 and 244 at this point. Finally, the resulting direct current electrical power is provided to the electronics circuit 212 and any other load in the robot 200 requiring electrical power.

Please replace the paragraph beginning on page 15, at line 13 with the paragraph shown below:

Knowledge of when to switch on and switch off the alternating current to the various primary coils 122 may be provided by the controller 114. The controller 114 knows the location of each robot 200 within the automated library system 100 and thus which primary coil or coils 122 each robot 200 is adjacent to, is approaching, and has departed. The controller 114 may use this knowledge to issue commands to the switching unit 136 that [insure] ensure that all active robots 200 are receiving electrical power. Likewise, the controller 114 may issue commands to the switching unit 136 to switch off the alternating current to all primary coils 122 that are not near at least one robot 200.

In The Claims

Please replace claims 1, 17 and 21 as shown below.

1. (Amended) An automated library system having a plurality of data cartridges, the system comprising:

a plurality of storage cells to store the plurality of data cartridges;

at least one rail disposed adjacent to the plurality of storage cells;

at least one primary coil disposed proximate to the at least one rail;

a power supply connected to the at least one primary coil to produce an alternating current in the at least one primary coil;

at least one robot disposed on the at least one rail, the at least one robot being operative to insert and remove the plurality of data cartridges at least one at a time from the plurality of storage cells; and

a secondary coil disposed on each of the at least one robots respectively and positioned to inductively couple at least a portion of the alternating current in the at least one primary coil to the at least one robot; wherein,

the at least one robot comprises a drive mechanism powered through the secondary coil and configured to move the robot about within the automated library system.

17. (Amended) A method of operating an automated library system having a plurality of data cartridges, wherein the automated library system has at least one robot operative to move adjacent to at least one primary coil, the method comprising:

providing an alternating current in the at least one primary coil;

inductively coupling at least a portion of the alternating current in the at least one primary coil into the at least one robot to produce a secondary alternating current;

converting the secondary alternating current into a mechanical movement of the at least one robot; and

directing the mechanical movement of the at least one robot to manipulate the plurality of data cartridges at least one at a time and to move the robot about within the automated library system, using a drive mechanism on the robot.

21. (Amended) The method of claim 17 further comprising:

providing a battery on each of the at least one robots to provide a direct current; and

wherein the step of converting the secondary alternating current into the mechanical movement comprises:

rectifying the secondary alternating current to produce the direct current; and

converting the direct current into the mechanical movement to manipulate the plurality of data cartridges and move the robot.

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